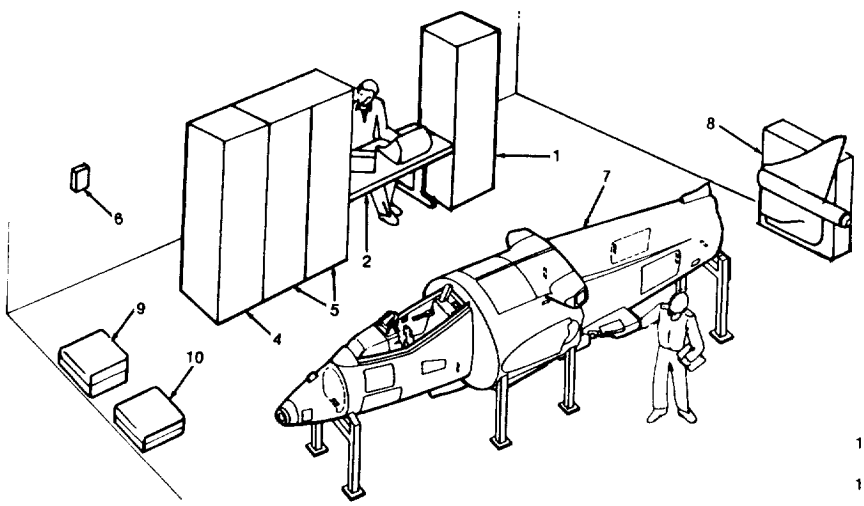

1 COMPUTATION SYSTEM (101)
2 INSTRUCTOR STATION (102)
3 TRICK (103)(NOT SHOWN)
4 POWER DISTRIBUTION CABINET (104)
5 I/O CABINET (105)
6 ALARM/ANNUNCIATOR PANEL (108)
7 COCKPIT/FUSELAGE (109)
8 TAIL MODULE BOARD (110)
9 RADAR BEACON TEST SET
10 COUNTERMEASURES DISPENSER TEST SET
11 MULTIMETER (NOT SHOWN)

858-1481

AV-8B AIRCRAFT AVIONICS SYSTEM MAINTENANCE TRAINER, DEVICE 11H94

TRAINING CATEGORY:

MAINTENANCE TRAINING (Misc.)

ORIGINATING AGENCY:

DCNO/AIR

SECURITY CLASSIFICATION:

Device 11H94 is unclassified.

PURPOSE OF DEVICE:

To integrate various hardware/human interface inputs and observations into a trainer system which facilitates instructor directed organizational "O" level maintenance training of Aircraft Communication/Navigation Systems Technician (MOS 6315) and Aircraft Weapon System Technician (MOS 6355), with minimal support activity.

INTENDED USE:

To provide avionics systems maintenance training including troubleshooting and unscheduled corrective maintenance which involve tasks of identifying instructor inserted malfunctions/failures and removal/replacement of designated components within the AV-8B avionics.

FUNCTIONAL DESCRIPTION:

The trainer simulates the aircraft avionics systems. The systems simulated are modeled in a static condition (aircraft on gouund, standard atmosphere, temperature, and zero acceleration). A full mockup of the fuselage including the cock- pit and a tail module board containing a replica of the vertical fin, and system GSE are provided as part of the student station to accomplish the training objectives. The trainer is divided into five major functional systems: power distribution, computation, real-time input/output (I/O), instructor display/control, and student station systems. The power distribution system distributes and monitors ac and dc power. The computation system consists of the computer/peripherals and trainer software simulation modules. The I/O system provides all analog and digital input/output signal requirements between the computation system and the trainer hardware. The instructor

display/control system includes the alphanumeric display terminal, instructor control panel, tetherless remote instructor command keypad (TRICK), and alarm/annunciator panel. The student station simulated cockpit/fuselage is a full scale fuselage including two-and three-dimensional representations for system panels and, components with functional capabilities. The simulation models communication/navigation related systems, and aircraft weapon system related systems, and provides for instructor-inserted simulated malfunctions. System components (cockpit/fuselage, and tail module board) are electrically interlinked through the instructor station and computation system. The tail module board is a replica of the vertical fin with related ECM quadrant antennas, quadrant receivers, and fin cap antennas. The countermeasures dispenser system test set and radar beacon test set are provided for troubleshooting the avionics. In addition, a modified Simpson 260 multimeter is provided for voltage, resistance and continuity checks. The instructor station display/control system provides the interface between the instructor and the student station, providing overall trainer control capabilities. The instructor station is used to initially load the trainer program, enter initial conditions, freeze the training scenario, and perform computation system diagnostics The trainer is also equipped with a DORT program to determine operational capability of the trainer. The I/O system is tested via a closed loop BITE test with a displayed fault indication to a card when a malfunction is detected.

PHYSICAL INFORMATION:

Item		Size (in.) W x L x H
1.	Computation System Unit 101 CPU 101A2 Floppy Disc Drive 101A3 Mini-Disc Drive 101A5	25-1/2 x 37 x 71
2.	Instruction Station Unit 102	32 x 45 x 26
	Instructor Alphanumeric Display Terminal 102A1	16 x 20 x 13
	Instructor Control Panel 102A2	8 x 11 x 9
3.	TRICK Unit 103	3 x 7-1/2 x 1-1/2
4.	Power Distribution Cabinet Unit 104	28-1/2 x 30 x 78
5.	I/O Cabinet Unit 105	46 x 30 x 78
6.	Alarm/Annunciator Panel Unit 108	6-1/2 x 7-1/2 x 10
7.	Cockpit/Fuselage Unit 109	84 x 331 x 118
8.	Tail Module Board Unit 110	96 x 36 x 92
9.	Radar Beacon Test Set	15 x 21 x 18
10.	Countermeasures Dispenser Test Set	15 x 20 x 11
11.	Multimeter	3 x 6 x 7-1/2

OPERATIONAL EQUIPMENT:

The operational equipment used in the trainer has been modified to facilitate trainer simulation and/or stimulation requirements.

EQUIPMENT REQUIRED (NOT SUPPLIED):

Refer to NTSC P-6067 Maintenance Instructions Manual (U).

POWER REQUIREMENTS: (VOLTAGE)

120/208 VAC.	3-Phase, 60 Hz. 20 amperes/phase
28 VDC	8 amperes
115/230 VAC	3-Phase, 400 Hz. 12 amperes/phase
Total VA:	19,640

INSTALLATION REQUIREMENTS:

Floor Area:	23'7" x 37'2"
Equipment Access:	12' door
Personnel Access:	3' door
Ceiling Height:	Minimum 10'

PUBLICATIONS FURNISHED:

NTSC P-6068, CCDS (U)
NTSC P-6067, Maintenance Manual (U)
NTSC P-6067-S1 through -S3, Vendor Equipment Maintenance Instructions Manuals (U)
NTSC P-5190, Operator's Manual (U)

PERSONNEL:

Instructor: One (1) qualified AV-8B Avionics Instructor

Students: Class of up to Ten (10).

Student Observers: One (1)

CONTRACT IDENTIFICATION:

Manufactured by Reflectone Inc. (50237), Tampa, FL 33614 under NAVTRASYSCEN Contract No. N61339-84-C-0003.

LOCAL STOCK NUMBER:

6910-LL-C00-6570